

CLAIMS

1. An electrochemical capacitor comprising:
an anode and a cathode opposing each other;
an insulating separator disposed between the
5 anode and cathode;
an electrolytic solution; and
a casing accommodating the anode, cathode,
separator, and electrolytic solution in a closed state;
wherein the anode contains a substantially
10 spherical carbon material having an electronic
conductivity as a constituent material; and
wherein the cathode contains a fibrous carbon
material having an electronic conductivity as a
constituent material.

15 2. An electrochemical capacitor according to
claim 1, wherein the substantially spherical carbon
material has an aspect ratio of 1 to 1.5.

3. An electrochemical capacitor according to
claim 1 or 2, wherein the fibrous carbon material has
20 an aspect ratio of 2 to 8.

4. An electrochemical capacitor according to
one of claims 1 to 3, wherein the separator comprises
an insulating porous body;

wherein the anode includes a porous layer
25 containing the substantially spherical carbon material;
wherein the cathode includes a porous layer

containing the fibrous carbon material; and

wherein the electrolytic solution is at least partly contained in the anode, cathode, and separator.

5 5. An electrochemical capacitor according to one of claims 1 to 4, wherein each of the anode, cathode, and separator has a planar form;

wherein the casing is formed by using at least a pair of composite package films opposing each other; and

10 wherein the composite package film comprises at least an innermost layer made of a synthetic resin in contact with the electrolytic solution, and a metal layer disposed on the upper side of the innermost layer.

15 6. An electrochemical capacitor according to claim 4, wherein the content of the substantially spherical carbon material in the porous layer contained in the anode is 75 to 90 mass% based on the total mass of the porous layer.

20 7. An electrochemical capacitor according to one of claims 1 to 6, wherein the substantially spherical carbon material has a specific surface area of 1000 to 3000 m²/g.

25 8. An electrochemical capacitor according to claim 4, wherein the content of the fibrous carbon material in the porous layer contained in the cathode is 75 to 90 mass% based on the total mass of the porous

layer.

5 9. An electrochemical capacitor according to one of claims 1 to 8, wherein the fibrous carbon material has a specific surface area of 1000 to 3000 m²/g.

 10. An electrochemical capacitor according to claim 4, wherein the ratio of void volume in the porous layer contained in the anode is 50% to 75%.

10 11. An electrochemical capacitor according to one of claims 1 to 10, wherein the electrolytic solution is an electrolytic solution using an organic solvent.